SPEEDING UP OUR DEEP SEA CABLES

A
Western Electric
Picture

(An Educational Motion Picture In Two Parts)

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(Synopsis)

A graphic presentation of the new high speed cable reveals in dissected form the component parts of the cable in which permalloy, the new metal developed by Western Electric engineers, serves as a magnetic field, surrounding the cable conductor, thus enabling it to carry signals without distortion five times faster than ever before.

Newcomb Carlton, President of the Western Union Telegraph Company, is introduced as the one responsible for the new deep sea cable opened for service between New York and the Azores, October, 1924.

We get a glimpse of the pioneer, Cyrus W. Field, who promoted the first Atlantic cables, and such men as Peter Cooper, Prof. S.F.B. Morse, inventor of the telegraph, Moses Taylor and David Dudley Field, associated with Field in his cable enterprise; also Sir John Pender who formed the Telegraph Construction and Maintenance Company to manufacture and lay the cable Field promoted.

Interesting scenes depicting the manufacture and handling of cable in 1866 are contrasted with modern equipment of the T. C. & M. factory where the new permalloy cable was made. Another contrast is drawn between

loading the "Great Eastern" with cable in 1866 and loading the "Colonia" fifty-eight years later with permalloy cable.

This modern successor of "The Great Eastern" on its way from England with a gross tonnage of 8000, storage capacity of over 4000 sea miles of cable, a cargo valued at $4,000,000, is met by the "Clowry," Western Union Cable Ship, just outside New York Bay.

Two miles of the heavily armored shore-end cable are transferred from the "Colonia" to the cable tank of the "Clowry." This is the first important preliminary operation in the laying of the New York-Azores deep sea cable.

While the cable engineers prepare for a busy day on shore, digging the cable trench from low water mark and sighting the proposed ship-to-shore line, Mr. Bullock, the Navigating Officer of the "Colonia" takes bearings aboard the "Clowry" and Mr. Muir, his lieutenant, "shoots the sun" to verify the ship's position.

After an exchange of signals between the shore and the ship, Mr. Muir makes for the beach with a coil of three inch rope, the ship's end of which is attached to the cable.

Finally, with the assistance of some life guards on a catamaran, the cable rope is brought ashore. While the "Clowry" is making preparations for paying out cable, Cable Chief Berner of the T.C. & M. Company watches from the shore through a telescope as the cable is floated ashore on barrels.

In the reception party which welcomes this epoch-making ocean telegraph ashore were Edward M. Field, son of Cyrus W. Field, Emilio Axerio, Italian Consul, Dr. F.B. Jewett, Vice-President of the Western Electric Company, which designed the new cable. Also many others.

The land end of the cable, forced through a conduit, is made

secure in the permanent cable station, and the "Clowry" gets under weigh, but is obliged to take on another mile of cable before chaining its end to a buoy and dropping it overboard three miles out where the "Colonia" would be able to pick up the cable. This is in striking contrast to the launching of a buoy in 1866, from the "Great Eastern."

Meanwhile, at sunrise the "Colonia" awaits flood tide to pick up the shore-end cable buoy. However, the water is still too shallow for the big ship to venture in, so that depth soundings around the buoy are taken from the "Clowry." The sea is so rough that a whole day is consumed before the boat's crew finally manages to pick up the buoy. Then, with cable safely aboard, the "Colonia's" splicing crew strip down the raw ends of the cable to the conductor cores, file and solder them, not forgetting to polish the joint neatly. The gutta-percha insulation is applied in carefully worked layers by two of the world's best cable splicers. Next, the outer layers are replaced and the splicing is complete.

As night approaches, the "Colonia" heads east for the Azores, paying out cable at ten miles an hour.

A profile map of the ocean between the cable station at Hammel on Rockaway Beach, N.Y. and the Azores Islands, adds interest to the subject by showing with animated drawing how the cable is laid along the irregular ocean bed.

At the Western Union Cable Station, Rockaway Beach, the engineers constantly in touch with the ship, receive a message from the "Colonia." On the siphon recorder invented by Lord Kelvin, the "Colonia's" progress, night and day, is recorded through the cable as it is laid. A test message is received from Fayal in the Azores where the eastern end of the cable was landed. The cable

signals are received by a specially designed amplifier, increased in strength and passed on to the recording instrument.

An animated map shows cable running between Hammel, N.Y., the Azores Island, Malaga, Rome and Emden, Germany. This new cable, five times faster than any other ocean telegraph, provides the most direct route from New York to Europe and the Azores, thus bringing the Old World and the New into closer touch than ever dreamed of by our forefathers.

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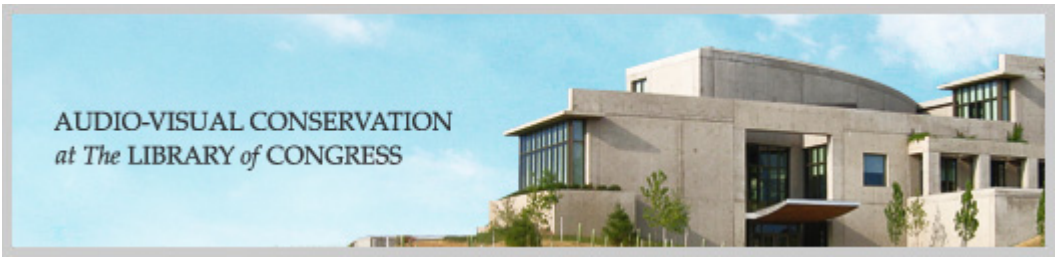

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